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TRANSPORTATION CONTROL MEASURE SUBSTITUTION

LA08171 - Gayley Avenue Bike Lane

DRAFT REPORT

June 2008

INTRODUCTION

Transportation Control Measures (TCMs) are defined as strategies that adjust trip patterns or otherwise modify vehicle use in ways that reduce air pollutant emissions, and which are specifically identified and committed to in the most recently approved Air Quality Management Plan (AQMP)/ State Implementation plan (SIP). TCMs are included in an AQMP as part of the overall control strategy to demonstrate a region's ability to come into attainment with the National Ambient Air Quality Standards (NAAQS). In the SCAG region, TCM type projects are considered committed once they have funds programmed for right-of-way or construction in an approved SCAG Regional Transportation Improvement Program (RTIP). When a committed TCM cannot be delivered or will be significantly delayed, the substitution of the TCM follows the process specified in the Clean Air Act (CAA) §176(c).

The Los Angeles County Metropolitan Transportation Authority (MTA) has requested that SCAG substitute a planned bike lane project included as a TCM in the South Coast Ozone SIP with a new bike lane project (see Appendix A). As documented herein, the proposed substitution is consistent with federal and state requirements, including the SAFETEA-LU planning requirements and the U.S. Environmental Protection Agency's (EPA) Transportation Conformity Rule

TCM SUBSTITUTION PROCESS

The substitution process set forth in SAFETEA-LU and the Transportation Conformity Rule is included in the 2007 AQMP for the South Coast Air Basin and described in SCAG's 2008 RTIP Guidelines.

The County Transportation Commissions (CTCs) and/or project sponsors notify SCAG when a TCM project cannot be delivered or will be significantly delayed. SCAG and the CTCs then identify and evaluate possible replacement measures for individual substitutions with consultation of the Transportation Conformity Working Group (TCWG), which includes members from all affected jurisdictions, federal, state and/or local air quality agencies and transportation agencies.

Substitution of individual TCMs is provided for by the CAA §176(c), under the following conditions:

- "(i) if the substitute measures achieve equivalent or greater emissions reductions than the control measure to be replaced, as demonstrated with an emissions impact analysis that is consistent with the current methodology used for evaluating the replaced control measure in the implementation plan;
- "(ii) if the substitute control measures are implemented-
 - "(I) in accordance with a schedule that is consistent with the schedule provided for control measures in the implementation plan; or
 - "(II) if the implementation plan date for implementation of the control measure to be replaced has passed, as soon as practicable after the implementation plan date



- but not later than the date on which emission reductions are necessary to achieve the purpose of the implementation plan;
- "(iii) if the substitute and additional control measures are accompanied with evidence of adequate personnel and funding and authority under State or local law to implement, monitor, and enforce the control measures;
- "(iv) if the substitute and additional control measures were developed through a collaborative process that included--
- "(I) participation by representatives of all affected jurisdictions (including local air pollution control agencies, the State air pollution control agency, and State and local transportation agencies);
 - "(II) consultation with the Administrator; and
 - "(III) reasonable public notice and opportunity for comment; and
- "(v) if the metropolitan planning organization, State air pollution control agency, and the Administrator concur with the equivalency of the substitute or additional control measures."

In addition to the conditions above, the 2007 South Coast AQMP states that the substitute project shall be in the same air basin and preferably be located in the same geographic area and preferably serve the same demographic subpopulation as the TCM being replaced.

A TCM substitution does not require a new conformity determination or a formal SIP revision. SCAG adoption of the new TCM with concurrence of the U.S. EPA and California Air Resources Board (ARB) will rescind the original TCM and apply the new measure.

PROJECT DESCRIPTION

The 2006 RTIP included LA0C8171 – Gayley Avenue Bike Lanes, a 0.25 mile Class 2 bike lane on Gayley Avenue with a completion date of April 2010. Progress on the planning and implementation of this project by the 2010 has been hindered by right of way difficulties. Consequently, MTA has identified a new project to substitute for the potential delay in the implementation of the Gayle Avenue project. MTA has requested that LAF1505 – San Fernando Pacoima Wash Bike Path, a 1.6 mile Class 1 facility, be used as the substitute. This is a new project not yet classified as a committed TCM.

COMPLIANCE WITH SUBSTITUTION REQUIREMENTS

Interagency Consultation. Interagency consultation on the proposed substitution occurred at SCAG's publicly noticed TCWG meetings on March 25 and June 24, 2008, prior to release of this document for a 30-day public review period. Any comments received will be discussed at the TCWG.

Equivalent Emissions Reduction. As demonstrated in this report (see below), the proposed TCM replacement provides more emissions reductions than the original TCM.



Similar Geographic Area. Both projects are located within the Los Angeles County portion of the South Coast Air Basin.

Full Funding. The proposed project has local funds in addition to STPE-R funds secured through the MTA 2007 Call for Projects process to construct and maintain the bike lane.

Similar Time Frame. The proposed project will be operational by September 2011.

Timely Implementation. The proposed substitution is the means by which the obstacle to implementation of the Gayley Avenue Bike lane TCM is being overcome. The replacement project will be monitored through TCM Timely Implementation Reports that SCAG releases for public review and submits for federal approval.

Legal Authority. The City of San Fernando, in cooperation with MTA, has legal authority to implement and operate the substitute project.

Agency Review and Adoption. After approval by SCAG's Energy and Environment Committee, the substitution will be presented to SCAG's Regional Council for adoption. Concurrence from U.S. EPA and ARB will rescind the original TCM and apply the new measure.

EMISSIONS ANALYSIS

The regional emissions analysis for transportation conformity is based on the output of SCAG's transportation demand model. The model outputs include traffic congestion (highway level-of-service), freight traffic (heavy duty trucks), and transit use. These and other data are used with the California Air Resources Board emissions model (EMFAC2007) to calculate the emission associated with on-road motor vehicles.

Since bike lanes are not included in SCAG's transportation demand model, off-model calculations are used to estimate emission reductions. MTA used the methodology set forth in the California Air Resources Board's *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects For Evaluating Motor Vehicle Registration Fee Projects and Congestion Mitigation and Air Quality Improvement (CMAQ) Projects*. SCAG staff reviewed the calculations for reasonableness and accuracy.

The proposed substitute 1.6 mile Class 1 San Fernando Pacoima Wash Bike Path achieves greater emission reductions than the 0.25 mile Class 2 Gayley Avenue Bike Lane as shown in the table below. Detailed calculations are shown in Appendix B.

Estimated Emission Reductions

Project	ROG (lb/yr)	NOx (lb/yr)	Total (lb/yr)
Gayley Ave	69	34	103
San Fernando	97	64	161



Appendix A

MTA Substitution Request

PRELIMINARY DRAFT



Metro

Los Angeles County
Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

213.922.2000
metro.net

March 24, 2008

Mr. Rich Macias
Interim Director of Planning and Policy
Southern California Association of Governments
818 West Seventh Street, 12th floor
Los Angeles, CA 90017

Attention: Jonathan Nadler

**SUBSTITUTE 2008 RTIP TCM PROJECT
LA008171 - GAYLEY AVE BIKE LANES & STREET WIDENING**

Dear Mr. Macias,

The Los Angeles County Metropolitan Transportation Authority (LACMTA) has identified through the 2008 Regional Transportation Improvement Program (RTIP) Adoption process that the Transportation Control Measure (TCM) project LA008171 – Gayley Avenue Bike Lanes and Street Widening has been delayed. The delay is a result of difficulties that the City of Los Angeles, the lead agency, has encountered with acquiring right-of-way from the University of California Los Angeles (UCLA). Currently the City of Los Angeles is in negotiations with UCLA and is developing a feasibility study. However, the project is not expected to be implemented by the April 30, 2010 completion date set in the 2006 RTIP. LACMTA requests that the Southern California Association of Governments (SCAG) accept the substitution of this TCM project with a new TCM project that will be added to the 2008 RTIP Adoption.

LACMTA requests that SCAG allow the LA008171 – Gayley Avenue Bike Lanes and Street Widening project in the 2008 RTIP to be substituted with a new TCM project LAF1505 - San Fernando Pacoima Wash Bike Path. These projects are similar in scope and completion timelines, and thus the substitute TCM project will offer comparative air quality benefits to the region (see enclosure).

Please contact Herman Cheng at (213) 922-2453 or by e-mail at chengh@metro.net, should you have any questions. Thank you.

Sincerely,



FRANK FLORES
Executive Officer

Programming and Policy Analysis

Appendix B

Emission Reduction Calculations

PRELIMINARY DRAFT

From: Shavit, Avital [mailto:ShavitA@metro.net]
Sent: Thursday, June 19, 2008 11:07 AM
To: Jonathan Nadler
Subject: TCM Substitution Calculations

Jonathan,

Here is the air quality analysis you requested.

Purpose

Metro has requested that the project LAF1505: San Fernando Pacoima Wash Bike Lane be substituted for project LA0C8171: Gayley Bike Lane in the 2008 Transportation Improvement Program document.

In order to verify that these projects have similar air quality benefits and thus can be substituted for one another, we conducted an air quality benefits analysis using the "Methods to Find the Cost-Effectiveness of Funding Air Quality Projects For Evaluating Motor Vehicle Registration Fee Projects and Congestion Mitigation and Air Quality Improvement (CMAQ) Projects" published by the California Air Resources Board (ARB) in May 2005. We used this methodology to compare the air quality benefits of San Fernando Pacoima Wash Bike Lane to the Gayley Bike Lane project.

Conclusion

The results of this analysis illustrate that LAF1505: San Fernando Pacoima Wash Bike Lane yields a greater air quality improvement for the region than the LA0C8171: Gayley Bike Lane. LAF1505: San Fernando Pacoima Wash Bike Lane reduces air pollution by 161 pounds per day while the LA0C8171: Gayley Bike Lane only reduces air pollution by 103 pounds per day. The project being substituted has a positive net reduction in emissions in comparison to the proposed deleted project.

Avital Shavit
Transportation Planner II
Los Angeles Metropolitan Transportation Authority
(213) 922-7518

EMISSION REDUCTION CALCULATIONS

LA0C8171: Gayley Avenue Bike Lane (Class 2)

Inputs

Days (D): 330 (average days of rain in LA county is 35 days: $365 - 35 = 330$)
Length (L) of bicycle facility: 0.25 miles
Annual Average Daily Traffic (ADT): 25,729 of parallel arterial street (Westwood Blvd)
Adjustment (A) on ADT for auto trips replaced by bike trips from the bike facility: 0.001
Credit (C) for Activity Centers near the project: 0.003

Emissions Factors

ROG: Auto Trip End Factor = 0.866 grams/trip; Auto VMT Factor = 0.229 grams/ mile
NOx: Auto Trip End Factor = 0.387 grams/trip; Auto VMT Factor = 0.269 grams/mile

Calculations

Annual Auto Trip Reduced = $(D) * (ADT) * (A + C)$
 $= (330) * (25,729) * (0.001 + 0.003) = 33,962$

Annual Auto VMT Reduced = $(\text{Auto Trips}) * (L) = (33,962) * (0.25) = 8,491$

Annual Emission Reductions (ROG, NOx) in lbs. per year
 $= [(\text{Annual Auto Trips Reduced}) * (\text{Auto Trips End Factor})$
 $+ (\text{Annual Auto VMT Reduced}) * (\text{Auto VMT Factor})] / 454$

ROG: $[(33,962 * 0.866) + (8,491 * 0.229)] / 454 = 69 \text{ lbs. per year}$
NOx: $[(33,962 * 0.387) + (8,491 * 0.269)] / 454 = 34 \text{ lbs. per year}$

Total Reductions = ROG+ NOx = 103 lb. per year

LAF1505: San Fernando Pacoima Wash Bike Lane (Class 1)

Inputs

Days (D): 330 (average days of rain in LA county is 35 days: $365 - 35 = 330$)

Length (L) of bicycle facility: 1.6 miles

Annual Average Daily Traffic (ADT): 26,989 of parallel arterial street (Hubbard Avenue)

Adjustment (A) on ADT for auto trips replaced by bike trips from the bike facility: 0.002

Credit (C) for Activity Centers near the project: 0.002

Emissions Factors

ROG: Auto Trip End Factor = 0.866 grams/trip; Auto VMT Factor = 0.229 grams/ mile

NOx: Auto Trip End Factor = 0.387 grams/trip; Auto VMT Factor = 0.269 grams/mile

Calculations

Annual Auto Trip Reduced = $(D) * (ADT) * (A + C)$
 $= (330) * (26,989) * (0.002 + 0.002) = 35,625$

Annual Auto VMT Reduced = $(\text{Auto Trips}) * (L) = (35,625) * (1.6) = 57,001$

Annual Emission Reductions (ROG, NOx) in lbs. per year
 $= [(\text{Annual Auto Trips Reduced}) * (\text{Auto Trips End Factor})$
 $+ (\text{Annual Auto VMT Reduced}) * (\text{Auto VMT Factor})] / 454$

ROG: $[(35,625 * 0.866) + (57,001 * 0.229)] / 454 = 97 \text{ lbs. per year}$
NOx: $[(35,625 * 0.387) + (57,001 * 0.269)] / 454 = 64 \text{ lbs. per year}$

Total Reductions = ROG+ NOx = 161 lb. per year